Element Materials Technology - Fort Wayne
328 Ley Rd.
Fort Wayne, IN 46825
TEL: (260) 424-1622 FAX: (260) 424-9124
Website: www.element.com

February 23, 2022

Henry Padilla
East Chicago Sanitary District
5201 Indianapolis Blvd
East Chicago, IN 46312
TEL: (219) 391-8466
FAX: (219) 391-8254

RE: S-901

Order No.: 22020431

Dear Henry Padilla:

Element Materials Technology - Fort Wayne received 2 sample(s) on 2/8/2022 for the analyses presented in the following report.

In accordance with your instructions, a laboratory of Element Materials Technology Fort Wayne LLC either conducted or subcontracted these analyses. Subcontracted analyses will be identified in an accompanying case narrative and any associated report(s) will be attached in full. Unless otherwise noted in the case narrative, all analyses were conducted using approved methodologies. Reported results relate only to the items tested.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.
Sincerely,

Megan Krauskopf
Project Manager
328 Ley Rd.
Fort Wayne, IN 46825

Element Materials Technology - Fort Wayne
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Fort Wayne, IN 46825
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Website: www.element.com

Case Narrative

WO#: **22020431**
Date: **2/23/2022**

CLIENT: East Chicago Sanitary District
Project: S-901

The Available Cyanide testing was subcontracted to Eurofins/Test America Pittsburgh PA. Their report is attached in its entirety.

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Analytical Report

(wastewater)

WO#: **22020431**

Date Reported **2/23/2022**

CLIENT: East Chicago Sanitary District
Project: S-901
Lab ID: 22020431-001
Client Sample ID S-901 Grab
Sample Location:

Collection Date: 2/7/2022 8:46:00 AM
Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	PL	Date Analyzed
OIL AND GREASE, TOTAL					**E1664**		Analyst: **SEK**
Oil & Grease, Total	17.5	3.0		mg/L	1	50.0	2/9/2022 1:00:00 PM
PHENOLICS IN WASTEWATER					**E420.1**		Analyst: **CDS**
Phenolics, Total Recoverable	0.221	0.125		mg/L	5		2/10/2022 9:49:50 AM
BASE/NEUTRALS AND ACIDS BY GCMS					**E625.1**		Analyst: **SKW**
Bis(2-ethylhexyl)phthalate	< 100	100		µg/L	10		2/22/2022 12:06:00 AM

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
PQL	Practical Quantitation Limit	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

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Analytical Report

(wastewater)

WO#: **22020431**

Date Reported **2/23/2022**

CLIENT: East Chicago Sanitary District
Project: S-901
Lab ID: 22020431-002
Client Sample ID S-901 Composite
Sample Location:

Collection Date: 2/7/2022 8:46:00 AM
Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	PL	Date Analyzed
FLUORIDE				**E300.0**			Analyst: **HNN**
Fluoride	2.5	1.0		mg/L	10	2.9	2/10/2022 5:55:11 PM
CHEMICAL OXYGEN DEMAND				**M5220 D**			Analyst: **ASP**
Chemical Oxygen Demand	985	20.0		mg/L	2		2/17/2022 9:10:00 AM
AMMONIA AS N				**E350.1**			Analyst: **HNN**
Nitrogen, Ammonia (As N)	31.1	1.00		mg/L	10	77.0	2/11/2022 8:55:50 PM
TOTAL PHOSPHORUS				**M4500-P F**			Analyst: **RXB**
Total Phosphorus	0.346	0.100		mg/L	1	5.50	2/14/2022 2:31:53 PM
TOTAL SUSPENDED SOLIDS				**M2540 D**			Analyst: **ASP**
Suspended Solids (Residue, Non-Filterable)	134	40		mg/L	1		2/9/2022 11:21:00 AM
MERCURY				**E245.1**			Analyst: **FJR**
Mercury	0.00022	0.00010		mg/L	1		2/9/2022 1:04:32 PM
METALS IN WATER BY ICP-MS, TOTAL				**E200.8**			Analyst: **FJR**
Arsenic	0.00676	0.00020		mg/L	1	0.500	2/10/2022
Chromium	0.00345	0.00040		mg/L	1	0.282	2/10/2022
Copper	0.0131	0.00020		mg/L	1	0.301	2/10/2022
Lead	0.00148	0.00020		mg/L	1	0.224	2/10/2022
Molybdenum	0.0712	0.00020		mg/L	1	0.200	2/10/2022
Nickel	0.0207	0.00100		mg/L	1	0.390	2/10/2022
Zinc	0.188	0.00400		mg/L	10	1.48	2/11/2022

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
PQL	Practical Quantitation Limit	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-133665-1
Client Project/Site: Available Cyanide 22020431

For:
Element Materials Technology
328 Ley Rd
Suite100
Fort Wayne, Indiana 46825

Attn: Don Ellis

Authorized for release by:
2/17/2022 8:16:09 AM

Andy Johnson, Manager of Project Management
(615)301-5045
Andy.Johnson@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Case Narrative

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Job ID: 180-133665-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative
180-133665-1

Comments
No additional comments.

Receipt
The sample was received on 2/15/2022 9:41 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

General Chemistry
Method OIA-1677: The following sample was diluted to bring the concentration of target analytes within the calibration range: 22020431-001A (180-133665-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Element Materials Technology
Job ID: 180-133665-1
Project/Site: Available Cyanide 22020431

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-22
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-22
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-30-22
Kansas	NELAP	E-10350	01-31-22 *
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-22
Louisiana	NELAP	04041	06-30-22
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-22
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-23
New York	NELAP	11182	04-02-22
North Carolina (WW/SW)	State	434	12-31-22
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22 *
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21 *
South Carolina	State	89014	06-30-22
Texas	NELAP	T104704528	03-31-22
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-22
Virginia	NELAP	10043	09-15-22
West Virginia DEP	State	142	01-31-23
Wisconsin	State	998027800	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-133665-1	22020431-001A	Water	02/07/22 08:46	02/15/22 09:41

Method Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Method	Method Description	Protocol	Laboratory
OIA - 1677	Available Cyanide by Flow Injection, Lig	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Client Sample ID: 22020431-001A
Date Collected: 02/07/22 08:46
Date Received: 02/15/22 09:41

Lab Sample ID: 180-133665-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OIA - 1677		5			388512	02/16/22 12:04	SNR	TAL PIT
	Instrument ID: ALPKEM3									

Laboratory References:
TAL PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:
Lab: TAL PIT
Batch Type: Analysis
SNR = Sabra Richart

Client Sample Results

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Client Sample ID: 22020431-001A
Date Collected: 02/07/22 08:46
Date Received: 02/15/22 09:41

Lab Sample ID: 180-133665-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available	0.20		0.010	0.0078	mg/L			02/16/22 12:04	5

QC Sample Results

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

Method: OIA - 1677 - Available Cyanide by Flow Injection, Lig

Lab Sample ID: MB 180-388512/40
Matrix: Water
Analysis Batch: 388512

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Available	ND		0.0020	0.0016	mg/L			02/16/22 11:24	1

Lab Sample ID: LCS 180-388512/41
Matrix: Water
Analysis Batch: 388512

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Available	0.0501	0.0433		mg/L		86	82 - 132

QC Association Summary

Client: Element Materials Technology
Project/Site: Available Cyanide 22020431

Job ID: 180-133665-1

General Chemistry

Analysis Batch: 388512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-133665-1	22020431-001A	Total/NA	Water	OIA - 1677	
MB 180-388512/40	Method Blank	Total/NA	Water	OIA - 1677	
LCS 180-388512/41	Lab Control Sample	Total/NA	Water	OIA - 1677	

element

CHAIN OF CUSTODY RECORD

Omega COCID 139881	PAGE: 1	OF: 1

ADDRESS
Element Materials Technology - Fort Wayne
328 Ley Rd.
Fort Wayne, IN 46825
TEL: (260) 424-1622
FAX: (260) 424-9124
Website: www.element.com

Test America-Pittsburgh
Sample Receiving
301 Alpha Dr.
Pittsburgh, PA 15238
800-765-0980

SUB
ADD
CIT
PHO
ACC

SPECIAL INSTRUCTIONS / COMMENTS:

Pott PIFW001268

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	22020431-001A	S-901 Grab	500HDPENAOH	Wastewater	2/7/2022 8:46:00 AM	1	
	CYAN_1677						

180-133665 Chain of Custody

Relinquished By:	Date: 2.14.22	Time: 1400	Received By:	Date: 2/15/22	Time: 941
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

Note: RUSH requests will incur surcharges!

REPORT TRANSMITTAL DESIRED:

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples _____ °C Attempt to Cool ? _____

Comments: _____

Login Sample Receipt Checklist

Client: Element Materials Technology

Job Number: 180-133665-1

Login Number: 133665
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

element

Chain of Custody W56 08 M85

Laboratory Number: 22020431

	Client Information:	Billing Information:	PO Number:	Project Name/Number:	Page 1 of 1
Company Name:	East Chicago Sanitary District	Same		S-901	**Matrix Code**
Contact Name:	Henry Padilla		Quote Number:		DW = Drinking Water WW = Waste Water GW = Ground Water AQ = Aqueous OT = Other SL = Sludge SOL = Solid O = Oil SO = Soil F = Food SW = Swab NG = Natural Gas NGL = Natural Gas Liquid PW = Produced Water CF = Completion Fluid
Address:	5201 Indianapolis Blvd			Sampler's Signature	
			Required QC Level		
City, State Zip:	East Chicago IN 46312				
Phone Number:	219-391-8466 Ext. 240	Ext:	Bill Monthly	Shipping Method:	
Fax Number:			☐Yes	UPS / FedEx / Airborne	
E-mail Address:	hpadilla@eastchicago.com		☐No	DHL / ~~Element~~ / Hand / Mail	

Which Regulations Apply:
☐RCRA ☐Drinking Water
☐POTW ☐Distribution
☐NPDES ☐Special
☐USDA/FDA ☐State
☐RECAP/RISC ☐Other

Turn Time
5 TAT

(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Container: Type P=Plastic, G=Glass, V=Vial	Pres.: HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	CYANIDE 1677	Oil & Grease T&SI	**SVOC list		*Metals	NH3, T.PHOS, COD	PHENOL	300: FI	TSS	
S-901 Grab	2-7-22	8:46	Grab	WW	1		NAOH	X									
S-901 Grab			Grab	WW	1	G	H2SO4		X								
S-901 Grab			Grab	WW	1	G	NONE			X							
S-901 Composite			Comp	WW	1	P	HNO3					X					
S-901 Composite			Comp	WW	1	P	H2SO4						X				
S-901 Grab			Grab	WW	1	G	H2SO4							X			
S-901 Composite			Comp	WW	2	P	NONE								X	X	

Comments

Samples Meet Acceptance Policy
Yes No

*As, Cr, Cu, Pb, Mo, Ni, Zn, & Hg

** Bis(2EH) Phthalate

	Relinquished by	Date/Time	Received by	Date/Time
1	[signature]	2/8/22 1015	Carson Blake [signature]	2-8-22 1015
2	Carson Blake	2-8-22 1430	[signature]	2/8/22 14:30
3				

Composite Sampler:
Start Date/Time: 2-7-22 8:46
End Date/Time: 2-8-22 8:27

Received at lab on ice?
☑Yes ☐No Temp: 2.2 °C

F596NNN

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

8800 North US 31, Columbus, IN 47201 USA, P 812-375-0531, F 812-375-0731
328 Ley Road, Suite 100, Fort Wayne, IN 46825 USA, P 260-471-7000, F 260-471-7777
909 Executive Dr. Warsaw, IN 46580 USA, P 574-267-3305, F 574-269-6569
3371 Cleveland Road, Suite 100A, South Bend, IN 46628-9780 USA, P 574-277-0707
2417 W. Pinhook Rd, Lafayette, LA 70508-3344 USA, P 337-235-0483, F 337-233-6540